

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
8 January 2004 (08.01.2004)

PCT

(10) International Publication Number
WO 2004/003331 A3

(51) International Patent Classification⁷: **C07C 205/00**,
229/00, E21B 43/00, C09K 3/00

(21) International Application Number:
PCT/US2003/020597

(22) International Filing Date: 26 June 2003 (26.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/391,563 26 June 2002 (26.06.2002) US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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Published:

— with international search report

(88) Date of publication of the international search report:
10 June 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: NON-CORROSIVE AMPHOTERIC SURFACTANTS AND METHOD OF WELL TREATMENT

(57) Abstract: A chloride free amphoteric surfactant obtained by reacting an amine with a carbonyl compound, the amphoteric surfactant being particularly useful as a foamer for treating gas wells to enhance production.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/20597

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07C 205/00, 229/00; E21B 43/00; C09K 3/00

US CL : 562/553; 560/155; 166/309; 507/202, 240, 244

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 562/553; 560/155; 166/309; 507/202, 240, 244

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,587,025 A (HORODYSKY et al) 06 May 1986 (06.05.1986), column 1, line 35 - column 2, line 31.	1-4, 6
X	US 4,012,437 A (SHACHAT et al) 15 March 1977 (15.03.1977), column 1, line 49- column 4, line 18	1-6
X	US 5,902,784 A (HELLSTEN et al) 11 May 1999 (11.05.1999), column 3, line 46-51.	6
Y	US 4,775,489 A (WATKINS et al) 04 October 1988 (04.10.1988), column 1, lines 22-29, and Tables I and II.	7, 8

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"&" document member of the same patent family

Date of the actual completion of the international search

06 February 2004 (06.02.2004)

Date of mailing of the international search report

26 FEB 2004

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INTERNATIONAL SEARCH REPORT

PCT/US03/20597

Continuation of B. FIELDS SEARCHED Item 3:

EAST

search terms: amphoteric, betaine, chloride free, chloride-free, acrylate, methacrylate, acrylic acid.